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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,221

09/25/2006

Takashi Sueyoshi

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EXAMINER

OJURONGBE, OLATUNDE S

ART UNIT

PAPER NUMBER

4145

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,221	<b>Applicant(s)</b> SUEYOSHI ET AL.	
	<b>Examiner</b> OLATUNDE S. OJURONGBE	<b>Art Unit</b> 4145	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20080215, 20061222, 20060925</u> .                            | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### ***ABSTRACT***

1. The abstract of the disclosure is objected to because: the content has some grammatical errors, for example, lines 2-3 cites "and further contains the following (D) (provided that when (C) is not contained, both (A) and (B) are contained", this is vague as to how many components of (D) the composition contains and where the components (A) and (B ) are contained. For clarity purpose, "the following" should be deleted and "in the composition" should be added after the second contained.

Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims **1 and 3-4** are rejected under 35 U.S.C. 102(b) as being anticipated by Koichiro et al (JP 2002-173661, see Machine translation).

Regarding **claim 1**, Koichiro et al discloses a silicon containing curing composition [see adhesive composition, 0006, line 1] comprising at least one silicon containing polymer selected from the following components (A), (B), and (C) [see organopolysiloxane, 0006, line 3] and the following component (D) as a catalyst [see platinum system catalyst, 0016, line 14], provided that the composition contains both the components (A) and (B) when the component (C) is absent:

(A) A silicon containing polymer having at least one kind of a reactive group A' selected from the group consisting of Si-R<sup>1</sup> [see H<sub>2</sub>C=CH-Si- , Formula 3, 0010] , Si-O-R<sup>2</sup>, and Si-R<sup>3</sup>-OCOC(R<sup>4</sup>)=CH<sub>2</sub>, wherein R<sup>1</sup> represents an alkenyl group having 2 to 20 carbon atoms [ see H<sub>2</sub>C=CH-Si- , Formula 3, 0010; R<sup>1</sup> has 2 carbon atoms] having an Si-O-Si bridge structure at at least one site thereof [ Formula 3, 0010], and containing 20% by weight or less of a component whose weight average molecular weight is 1000 or less.

The disclosed structure of formula (3) contains two -CH=CH<sub>2</sub> components [0010]; the weight average of -CH=CH<sub>2</sub> component is 28, which is less than 1000; the weight of the two -CH=CH<sub>2</sub> components in formula (3) is 28X2=56 and the least weight average molecular weight of the organopolysiloxane of formula (3) when m=2 and n=2 is 578, hence, the weight percent of the two CH=CH<sub>2</sub> components in the organopolysiloxane formula (3) is 9.6% which is less than 20%.

(B) A silicon containing polymer having an Si-H group [see Formula 7, 0014], having an Si-O-Si bridge structure at at least one site thereof [see Formula 7], and containing 20% by weight or less of a component whose weight average molecular weight is 1000 or less.

The disclosed structure of formula (7) contains two H-Si-(CH<sub>3</sub>)<sub>2</sub> components; the weight average molecular weight of a H-Si-(CH<sub>3</sub>)<sub>2</sub> component is 59, which is less than 1000; the weight of the two H-Si-(CH<sub>3</sub>)<sub>2</sub> components in formula (7) when m=2 and n=2 is 118 ; and the weight average molecular weight of the organopolysiloxane of formula

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(7) is 596, hence the weight percent of the two  $\text{H-Si-(CH}_3)_2$  components is 19.7% which is less than 20%.

(D) A platinum-based catalyst as a catalyst for curing reaction [0016, lines 1-9].

Regarding **claim 3**, Koichiro et al discloses all the claim limitations as set forth above and further discloses the silicon containing curing composition as set forth above, which further comprises a metal oxide fine powder.[ see titania, alumina and zirconia, 0029, lines 11-13 and 0029, lines 15-17].

Koichiro et al discloses titania, alumina and zirconia present in a particle diameter of preferably 0.5 micrometer or less [0029, lines 15-17]. Titania, alumina and zirconia are metal oxides and at the disclosed particle diameter, the oxides are in fine powder form.

Regarding **claim 4**, Koichiro et al discloses all the claim limitations as set forth above and further discloses a cured product obtained by heat curing the silicon containing curing composition [0029, lines 5-7].

Koichiro et al discloses an adhesive composition wherein the cure time of the adhesive composition can be shortened by heat-treating [0029, lines 5-7], this discloses a cured product obtained by heat curing the silicon containing curing composition

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 2 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Koichiro et al (JP 2002-173661, see machine translation) in view of Verbruggen et al (WO 03/066707).

Regarding **claim 2**, Koichiro et al discloses all the claim limitations as set forth above and further discloses the silicon containing curing composition, wherein the total aryl group and arylene group content of the total silicon containing polymers as components (A), (B), and (C) is 0.017 % to 61.99% by weight.[Formula (3), 0010 and Formula (7), 0014].

Considering the structure of formula (3) and (7):

the highest total weight of the phenyl groups (aryl/arylene group) in structure 3 is 23400; this is when n is 300 and m is 2;

the lowest total weight of the phenyl groups (aryl/arylene group) in structure 3 is 156; this is when n is 2 and m is 150;

the highest total weight of the phenyl groups(aryl/arylene group) in structure 7 is 3900; this is when n is 50 and m is 2;

and the lowest total weight of the phenyl groups (aryl/arylene group) in structure 7 is 156; this is when n is 2 and m is 100.

Though Koichiro et al does not explicitly disclose the silicon containing curing composition, wherein the total aryl group and arylene group content of the total silicon containing polymers as components (A), (B), and (C) is 0.1% to 50% by weight, Koichiro et al further discloses that the disclosed invention is used as an optical component [0027, lines 1-6], in which the refractive index can be adjusted by choosing the organic group of the polysiloxane skeleton [0024, lines 1-3].

It is known in the art that the refractive index of an organopolysiloxane composition increases with an increase in the phenyl group (aryl or/and arylene group) content of the organopolysiloxane composition, as evidenced by Verbruggen et al (WO 03/066707, page 2, lines 6-8). Since the instant specification is silent to unexpected results, the total aryl group and arylene group content of the total silicon containing polymers (A), (B) and (C) is not considered to confer patentability to the claims; as the refractive index of the adhesive composition formed from components (A), (B) and (C)

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is a variable that can be modified, among others, by adjusting said total aryl group and arylene group content of the total silicon containing polymers of (A), (B) and (C), with said refractive index of the adhesive composition increasing as the total aryl group and arylene group content of the total silicon containing polymers of (A), (B) and (C) increases, the precise total aryl group and arylene group content of the total silicon containing polymers (A), (B) and (C) would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed total aryl group and arylene group content of the total silicon containing polymers (A), (B) and (C) cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the total aryl group and arylene group content of the total silicon containing polymers (A), (B) and (C) in the composition of Koichiro et al to obtain the desired refractive index of the adhesive composition (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

Regarding **claim 5**, Koichiro et al discloses all the claim limitations as set forth above and further discloses the silicon containing curing composition as set forth above, which further comprises a metal oxide fine powder.[ see titania, alumina and zirconia, 0029, lines 11-13 and 0029, lines 15-17].



Koichiro et al discloses titania, alumina and zirconia present in a particle diameter of preferably 0.5 micrometer or less [0029, lines 15-17]. Titania, alumina and zirconia are metal oxides and at the disclosed particle diameter, the oxides are in fine powder form.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLATUNDE S. OJURONGBE whose telephone number is (571)270-3876. The examiner can normally be reached on Monday-Thursday, 7.15am-4.45pm, EST time, Alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272 1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.S.O

/Basia Ridley/  
Supervisory Patent Examiner, Art Unit 4145